



Department of Pesticide Regulation



Mary-Ann Warmerdam
Director

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February 6, 2008

Dr. John R. Froines, Chairman
Scientific Review Panel
c/o Center of Occupational and Environmental Health
School of Public Health CHS 21-293
University of California Los Angeles
650 Charles E. Young Drive South
Los Angeles, California 90095-1772

Dear Dr. Froines:

Enclosed for the Scientific Review Panel's review is the revision of our report, "Endosulfan Risk Characterization Document" (RCD) dated February 2008. This version of the report addresses issues raised by the Panel at the December 2007 meeting. Revisions in the text are clearly highlighted. We will also provide an electronic version to panel members. If panel members wish to print a copy from the electronic version (pdf file), a color printer will be needed to clearly show highlighted changes. We will provide an additional highlighted copy by overnight mail as requested.

The Executive Summary has been refined to focus on air exposure issues, and revisions reflect changes in the respective volumes. The 2 page attachment to this letter lists the substantive changes in Volumes 1 and 2. There were minor revisions to Volume 3 pertaining to hydroxyl-induced photodegradation in air and clarification on volatility, as well as minor editorial changes. We are not including Volume 4 (Response to Comments) as there were no changes from the previous version.

I hope this revised document assists the Panel in its deliberations on methidathion and its development of findings. We appreciate the thoughtful comments provided to the authors by leads Drs. Hammond and Landolph after the September meeting, and by Dr. Atkinson on issues in Volume 3.

Please contact me if you have any questions.

Sincerely,

Original signed by



Dr. John R. Froines
June 2, 2006
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Enclosure

cc: Scientific Review Panel Members (w/Enclosure)

Highlights of Revisions to the Endosulfan RCD

Executive Summary:

Changes include clarification in terminology; clarification of DPR position in neurotoxicity, endocrine disruption, genotoxicity and oncogenicity risk sections; biotransformation description; and revisions in the air exposure assessment based on new scenarios and new values.

Volume I: Hazard Identification and Risk Assessment

Page 3, 180-194, 203, 210: Revision to the endocrine disruption, neurotoxicity sections that specifically address sensitive populations (Tables 46 –50 added). This section was expanded to help to clarify the DPR position regarding additional uncertainty factors that was discussed at the December 4, 2007 SRP meeting.

Pages 6, 64, 97, 100, 210: Revisions to statements about genotoxicity and oncogenicity that explains in more detail the DPR position on these issues.

Page 21: Illness Report referred to EAD Volume II

Page 39: Revision of gap junction statement.

Page 61: Additional information about why the NTP rat oncogenicity study was not acceptable as requested at the December SRP meeting. The evaluation by NTP was also added stating that the study was invalid for males and endosulfan was non-oncogenic in females.

Page 64: Addition of NTP mouse oncogenicity study and an explanation of why this study was not acceptable. Previously this study was only in the Summary of Toxicology Data (Volume I, Appendix D) and was not added to the original RCD because of its numerous deficiencies. Since the NTP studies were an issue at the December SRP meeting, we added this study to the Toxicology Profile. The evaluation by NTP was also added stating that the study was invalid for males and endosulfan was non-oncogenic in females.

Page 70, 72-74, 76: Revised summary to F.REPRODUCTIVE TOXICITY section. Highlighted sections show where additional comments were added to state study deficiencies or give further study detail.

Page 80: Revisions of studies included in section G. DEVELOPMENTAL TOXICITY. Highlighted sections show where additional comments were added to state study deficiencies or give further study detail.

Pages 85-86, 90: Revisions to H. NEUROTOXICITY. Highlighted sections show where additional comments were added to state study deficiencies or give further study detail. References were made to the discussion in the Risk Characterization Section (pp. 189-

192) relating to the studies of Agrawal et al., 1983, Zaidi et al., 1985 and Seth et al., 1986 that were at issue in the December SRP meeting.

Page 99: Comment about reduction of FQPA Safety Factor to 1x.

Page 104-109, 114, 117, 140-141, 145-149, 151-154, 156, 160-161, 167-168, 170-173, 177-180, 205-206, 208-210: Revisions of exposure scenarios based on revised EAD with new scenarios and values.

Page 163, 165-166, 195: Changes to new USEPA endpoints generated after their November, 2007 posting of their revised Registration Eligibility Document.

Volume 2, Exposure Assessment Document

Pages 11-12 Reported Illnesses

Page 34, Ambient Air Concentrations

Pages 47-54, Handler Exposure

Pages 60-61, 63 Reentry Exposure

Pages 80-82, Exposure Appraisal